APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,537	03/24/2004	Yosef Solt	MP0345	6150

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EXAMINER
FLOURNOY, HORACE L

ART UNIT	PAPER NUMBER
2189	

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11/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/809,537	SOLT ET AL.
	Examiner	**Art Unit**	
	Horace L. Flournoy	2189	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>21 August 2007</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-111</u> is/are pending in the application.

    4a) Of the above claim(s) <u>9-17, 27-36, 46-55, 65-74, 84-93, and 102-110</u> is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-8,18-26,37-45,56-64,75-83,94-101 and 111</u> is/are rejected.

7)☒ Claim(s) <u>7-8, 24-25, 43-44, 62-63, 81-82, and 100-101</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

Response to Amendment

This Office action has been issued in response to amendment filed <u>August 21st 2007.</u>

<u>Claims 1-8, 111, 18-26, 37-45, 56-64, 75-83, and 94-101 are pending</u>. Applicant's

arguments have been carefully and respectfully considered, but they are not entirely

persuasive, as will be discussed in more detail below. Accordingly, this action has been

made FINAL.

REJECTIONS BASED ON PRIOR ART

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

<u>Claims 1-8, 111, 18-23, 37-42, 45, 56-61, 64,75-80,83 and 94-99</u>, are rejected under 35

U.S.C. 102(e) as being anticipated by **Shemla et al. (U.S. Patent no. RE38, 821,**

hereafter referred to as Shemla).

With respect to **independent claims 56, 1, 18, and 94,**

A system comprising: a switching module to receive and switch packets **[Shemla discloses a switching module, which receives and switches packets in FIG. 1B, element 12: "Switch"]**; *a buffer memory including a plurality of buffers to store received packets* **[disclosed, e.g. in FIG. 8, element 319A,B: "buffer location"]**; *and a buffer management module including: an allocation memory* **[Shemla discloses a "hash table", element 212 of FIG. 5]** *including a plurality of data elements arranged in a plurality of sets* **[Shemla discloses a plurality of "hash table locations", element 212 of FIG. 5]**, *each of said data elements being associated with a corresponding one of the plurality of buffers in the buffer memory* **[Shemla discloses this functionality via the "Hash Table Location Generator" of FIG. 5]**; *an allocation register* **[disclosed, e.g. in FIG. 8, element 64, "request register"]**; *and a buffer manager to write one of said plurality of sets into the allocation register* **[disclosed, e.g. in FIG. 8, element 62, "Transfer Manager" (of element 12: "Switch")]**, *and in response to an allocation request, identify a data element in the allocation register having a value corresponding to an available buffer* **[Shemla discloses in column 4, lines 22-28, "The switching unit 34 typically includes an empty list block 50, a hash table address control unit 52, an arbiter 54 and a DRAM interface 56. The empty list block 50 manages the organization of the DRAM 20, noting which buffers of the DRAM 20 are available for storing newly arrived packets and which buffers contain packets to be transferred out."]**, *change the value of said data element to a value corresponding to an allocated buffer, and allocate the buffer associated with said data element* **[Shemla discloses this limitation, e.g. in column 7, lines 21-24, "Empty list controller 114 then determines the buffer number of the selected buffer 122 and changes the bit value of the associated single bit buffer 124 to 0, thereby indicating that the selected buffer 122 is now available."].***

With respect to **independent claims 37 and 75,**

These claims are interpreted under 35 U.S.C. 112, 6th paragraph. As such these claims are rejected under the same grounds as independent claims 56, 1, 18, and 94. The examiner has found that the structure in which these "mean for" functions correspond to similarly anticipated structures by the prior art of record.

Dependent Claims

With respect to **claims 2, 19, 38, 57, 76, and 95**

"The method of claim 1, wherein each of the plurality of data elements comprises a single bit." **[disclosed, e.g. in column 6, lines 37-42]**

With respect to **claims 3, 20, 39, 53, 77, and 96**

"The method of claim 1, wherein each of the plurality of sets comprises a line in the allocation memory." **[disclosed, e.g. in column 10, lines 61-67]**

With respect to **claims 4, 21, 40*, 59, 78*, and 97**

"The method of claim 1, further comprising: in response to a Clear request for one of the plurality of buffers, identifying a data element associated with said buffer in one of the allocation memory and the allocation register; and changing a value of said data element to the value corresponding to an available buffer." **[disclosed, e.g. in column 8, lines 12-17 and FIG. 4]**

With respect to **claims 5, 22, 41*, 60, 79*, and 98**

"The method of claim 4, further comprising: in response to identifying the data element

associated with said buffer in the allocation memory, writing the set including said data element

to a clear register; and after changing the value of said data element in the clear register, writing

*the set in the clear register to the allocation memory."***[disclosed, e.g. in column 5 line 61 –**

column 6 line 9]

With respect to **claims 6, 23, 42*, 61, 80*, and 99**

"The method of claim 1, further comprising: monitoring the values of each of the data elements

in the allocation register; and in response to each of said data elements having the value

corresponding to an allocated buffer, **[disclosed, e.g. in column 5, lines 37-43]** *writing the*

data elements in the allocation register back to the allocation memory; identifying a set including

at least one data element having the value corresponding to an available buffer; and writing said

set to the allocation register." **[disclosed, e.g. in column 10, lines 40-53]**

With respect to **claims 26, 23, 42*, 61, 80*, and 99,**

"The apparatus of claim 18, wherein the allocation memory comprises an SRAM." **[disclosed,**

e.g. in FIG. 1A, element 20]

With respect to claim 111,

"The method claim 1, wherein each of the plurality of sets is a non-empty set." **[the hash table**

does in fact teach and show "a plurality of sets". See column 8, lines 45-64.]

Dependent claims marked with an " * " are interpreted as stated supra with regard to claims 37 and 75.

Allowable Subject Matter

Claims 7, 24, 43, 62, 81, and 100 as well as 8, 25, 44, 63, 82, and 101 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

ARGUMENTS CONCERNING PRIOR ART REJECTIONS

1ST POINT OF ARGUMENT:

With respect to the arguments on page 30 of the applicant's remarks, the examiner respectfully disagrees that Shemla's hash table 212 does not include "a plurality of sets". FIG. 5 also teaches locations (see elements 212, 222, 224, 225, and 220). Each of these locations comprise a "set" of the hash table. Therefore, the hash table does in fact teach and show "a plurality of sets". See column 8, lines 45-64.

2nd POINT OF ARGUMENT:

With respect to the arguments on page 31 of the applicant's remarks, the examiner respectfully disagrees that Shemla does not identify a data element in the

buffer request message. Shemla teaches this feature in column 10, lines 15-22 and in column 5, line 61- column 6, line 9.

CONCLUSION

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Important Note

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reginald G. Bragdon can be reached on (571) 272-4204. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 746-7239.

Information regarding the status of an Application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published
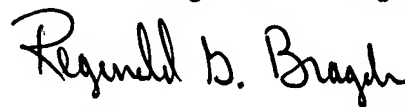
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information for unpublished applications is available through Private Pair only. For more

information about the PAIR system, see http://pair-direct.uspto.gov. Should you have

questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (571) 272-

2100.

Reginald G. Bragdon

HLF
October 29th, 2007

Supervisory Patent Examiner
Technology Center 2100